PERCENTAGE

1. P, Q and R have certain number of oranges with them, Q has 10% less mangoes than P and R 20% less than P. By what percentage is the number of oranges with Q more than those will R ?

(A) 12.5 % (B) 10% (C) 12% (D) 8%

Sol. **(A)**

Let 'P' has 100 mangoes.

So, 'Q' has 10% less than P, so 90.

'R' has 20% less than P, so 'R' has 80.

So, Q has '10' mangoes extra than R.

So, $$\% \text{ Extra} = \frac{10}{80} \times 100 = 12.5\% .$$

2. The price of apples increased by the same percentage every week, over the last four weeks. If at the beginning it was Rs. 512 per kg and in the end it became Rs. 1250 per kg, then find the percentage increase every week.

(A) 20% (B) 25% (C) 22% (D) 24%

Sol. **(B)**

Let % increase every week $= x$ %

So, $$1250 = 512\left(1+\frac{x}{100}\right)^4$$

$$\frac{1250}{512} = \left(1+\frac{x}{100}\right)^4$$

$$\left(1+\frac{x}{100}\right)^4 = \frac{625}{256} \quad \Rightarrow \quad 1+\frac{x}{100} = \frac{5}{4}$$

$$\Rightarrow \quad \frac{x}{100} = \frac{1}{4}$$

$$\Rightarrow \quad x = 25\%.$$

3. Two numbers are respectively 35 % and 50% more than a third, what percentage is the first of the second :

(A) 90% (B) 85 % (C) 80 % (D) 75 %

Sol. **(A)**

Let third number is equal to 100.

So, first no. is $\Rightarrow 135$

second no. is $\Rightarrow 150$

So, the first no. is 135/150*100=90 % of the second No.

4. If 29% of p is 58, then find p:

(A) 100 (B) 150 (C) 200 (D) 250

Sol. **(C)**

Given $p.(29/100) = 58$

So, $p = 200$

5.. P % of 150 + 25% of 80 = 50, then the value of P is:

(A) 10 (B) 15 (C) 20 (D) 25

Sol. **(C)**

$150.(P/100)+80.(25/100) = 50$

$P=20$

6. If P % of 2P + Q % of 2Q = 4% of PQ, then what percent of P is Q :

(A) 50% (B) 75% (C) 100% (D) Cannot be determined

Sol. **(C)**

$2P.(P/100)+ 2Q.(Q/100)= PQ.(4/100)$

$P2+Q2=2PQ$, $(p-q)2=0$

So P=Q MEANS 100%

7. A candidate who gets 25% of the total marks in an examination, fails by 32 marks. Another candidate who gets 37% of the total marks, gets 52 marks more then the required pass marks, the maximum marks in the examination is :

(A) 700 (B) 600 (C) 500 (D) 800

Sol. **(A)**

Let the total marks $= a$

Now, 25% of a $= \frac{a}{4}$

$\frac{a}{4}+32 =$ Passing Marks (P) .....(i)

Now, 37% of $a = \frac{37}{100}a$

$\frac{37}{100}a =$ P + 52 .....(ii)

By (i) and (ii) $\frac{37}{100}a = \frac{a}{4}+32+52$

$\frac{37a}{100}-\frac{9}{4} = 84$

$\frac{39a-25a}{100} = 84$

$12a = 8400$

$a = 700.$

8. The price of Dal goes up by 80%. By how much percent must a house wife reduce her consumption so that the expenditure does not increase ?

(A) 70 (B) 60 (C) 50/3 (D) 400/9

Sol. (D) Let the consumption of dal originally be 100 kg and its price be Rs 100.

Then,

New price of 100 kg dal = Rs 180

Now, Rs 180 can fetch 100 kg dal

$\therefore$ Rs 100 can fetch = $(\frac{100}{180}.100)$ kg dal = $\frac{500}{9}$ kg dal

$\therefore$ Reduction in consumption = $100-\frac{500}{9}=\frac{400}{9}$ %

9. A number is increased by 10% and then it is decreased by 10%. Find the net increase or decrease percent.

(A) 7 (B) 1 (C) 3 (D) 5

Sol.(B) Let the number = 100

Increase in the number = 10% = 10% of 100 = 10

$\therefore$ Increased number = 100 + 10 = 110

This number is decreased by 10%. Therefore,

$\therefore$ Decrease in the number = 10% of 110 = $\frac{110\times10}{100}=11$

$\therefore$ New number = 110 – 11 = 99

Thus, net decrease = 100 – 99 = 1

Hence net percentage decrease = $\left(\frac{1}{100}\times100\right)\%=1\%$

10. If 60% people in a city like cricket, 30% like football and remaining like other games. What percent like the other games? If the total number of people is 56 lakhs, find the exact number who like each type of game.

Sol. It is given that 60% people like cricket, 30% like football.

$\therefore$ Percentage of people who like other games = (100 – 60 – 30)% = 10%

Total number of people = 56,00,000

Number of people who like cricket= 60% of 5600000

$= \frac{60}{100}\times5600000=33,60,000$

Number of people who like football= 30% of 5600000

$= \frac{30}{100}\times5600000=16,80,000$

Number of people who like other games = (10% of 5600000) = 5,60,000